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The process according to the invention can also be used to produce egg-based products in a powder form with a reduced content of cholesterol and fat and with good sensory properties whose cholesterol and fat content is reduced by more than 85% whereby at least 50% of the phospholipids of the starting material are preserved.

The following examples are intended to elucidate the invention in more detail.

EXAMPLE 1

30 kg liquid propane is passed through 1000 g egg yolk powder (total lipids: 60% by weight; fat: 45% by weight; phospholipids: 15% by weight; total cholesterol: 2.1% by weight) for 2 hours at 20 bar and 25° C. in a 4 l pressure autoclave. The process is carried out in a circulation in which the extract separation is achieved by evaporation of the propane in a separator. The extraction residue (530 g) was analysed: total lipids: 24.5% by weight; fat: 5% by weight; phospholipids: 19.5% by weight; total cholesterol: 0.07% by weight.

EXAMPLE 2

20 kg liquid propane is passed through 1000 g egg yolk powder (total lipids: 60% by weight; fat: 45% by weight; phospholipids: 15% by weight; total cholesterol: 2.1% by weight) for 80 minutes at 20 bar and 45° C. in a 4 l pressure autoclave. The process is carried out in a circulation in which the extract separation is achieved by evaporation of the propane in a separator. The extraction residue (523 g) was analysed: total lipids: 23.6% by weight; fat: 7% by weight; phospholipids: 16.5% by weight; total cholesterol: 0.06% by weight.

EXAMPLE 3

30 kg liquid propane is passed through 1000 g egg yolk powder (total lipids: 60% by weight; fat: 45% by weight; phospholipids: 15% by weight; total cholesterol: 2.1% by weight) for 2 hours at 60 bar and 45° C. in a 4 l pressure autoclave. The process is carried out in a circulation in which the extract separation is achieved by evaporation of the propane in a separator. The extraction residue (500 g) was analysed: total lipids: 20% by weight; fat: 3% by weight; phospholipids: 17% by weight; total cholesterol: 0.05% by weight.

EXAMPLE 4

15 kg liquid propane is passed through 1000 g whole egg powder (total lipids: 41% by weight; fat: 27% by weight; phospholipids: 14% by weight; total cholesterol: 1.4% by

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weight) for 1 hour at 40 bar and 35° C. in a 4 l pressure-autoclave. The process is carried out in a circulation in which the extract separation is achieved by evaporation of the propane in a separator. The extraction residue (683 g) was analysed: total lipids: 14% by weight; fat: 6% by weight; phospholipids: 8% by weight; total cholesterol: 0.03% by weight.

EXAMPLE 5

6 kg liquid propane is passed through 1000 g egg yolk powder (total lipids: 60% by weight; fat: 45% by weight; phospholipids: 15% by weight; total cholesterol: 2.1% by weight) for 35 minutes at 20 bar and 45° C. in a 4 l pressure autoclave. The process is carried out in a circulation in which the extract separation is achieved by evaporation of the propane in a separator. The extraction residue (550 g) was analysed: total lipids: 28% by weight; fat: 12.5% by weight; phospholipids: 15% by weight; total cholesterol: 0.09% by weight.

We claim:

1. A process for producing an egg-based product in powder form having a reduced fat and cholesterol derivative content, but not a substantially reduced phospholipid content consisting essentially of extracting fat and cholesterol derivatives from a powdered egg based product with liquid propane at a pressure of ≤ 200 bar and a temperature of $\leq 70^\circ$ C.

2. Process of claim 1, wherein the is from 10 to 60 bar and the temperature is from 20° to 60° C.

3. Process of claim 2, wherein the temperature is from 25° to 50° C.

4. Process of claim 1, wherein from 1 to 30 kg propane is used per kilogram of said egg-based product.

5. Process of claim 1, further consisting essentially of separating said fat and cholesterol derivatives from said liquid propane by evaporation or reducing the pressure of said liquified propane.

6. Process of claim 1, wherein said extraction liquid further consists essentially of a mixture of propane and butane.

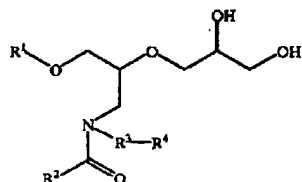
7. Process of claim 6, wherein said mixture of propane and butane comprises up to 45% by weight of butane.

8. Process of claim 1, wherein said fat and cholesterol derivative content of said egg-based product is reduced by at least 85%.

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wherein R^1 and R^2 are the same or different and each independently represents a C_{1-40} hydrocarbon group which may be hydroxylated, R^3 represents a linear or branched C_{1-6} alkylene group or a single bond, and R^4 represents a hydrogen atom, a linear or branched C_{1-12} alkoxy group or a 2,3-dihydroxypropoxy group, with the proviso that when R^3 represents a single bond, R^4 is a hydrogen atom.

3. The hair cosmetic composition according to claim 1, wherein R^1 represents a linear or branched C_{8-28} alkyl or alkenyl group, R^2 represents a linear or branched C_{8-25} alkyl or alkenyl group, R^3 represents a linear or branched C_{1-6} alkylene group, R^4 represents a hydrogen atom, a C_{1-8} alkoxy group or a 2,3-dihydroxypropoxy group, R^{30} represents a linear or branched C_{3-6} alkylene group and R^{32} represents a C_{1-8} alkoxy group.

4. The hair cosmetic composition according to claim 1, further comprising a sterol.

5. The hair cosmetic composition according to claim 4, wherein the sterol is cholesterol or a cholesterol derivative.

6. The hair cosmetic composition according to claim 1, further comprising an oily ingredient.

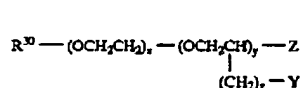
7. The hair cosmetic composition according to claim 6, wherein the oily ingredient is at least one member selected from the group consisting of hydrocarbons, waxes, animal or vegetable oils and fats, higher alcohols, higher fatty acids, amide amines, glycerins, esters, ethers and silicones.

8. The hair cosmetic composition according to claim 1, further comprising a polymer.

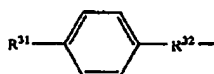
9. The hair cosmetic composition according to claim 8, wherein the polymer is at least one member selected from the group consisting of nonionic polymers, amphoteric polymers, anionic polymers, cationic polymers, and natural polysaccharides and derivatives thereof.

10. The hair cosmetic composition according to claim 1, further comprising a penetration enhancer.

11. The hair cosmetic composition according to claim 10, wherein the penetration enhancer is a compound represented by the following formula (32):



wherein R^{30} represents a hydrogen atom, a linear or branched C_{1-4} alkyl group, a group



or a group

(1)

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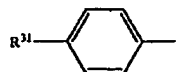
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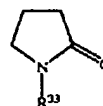
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in which R^{31} represents a hydrogen atom, a methyl group or a methoxy group, R^{32} represents $-CH_2-$, $C(CH_3)_2-$, $-CH_2CH_2-$, $-CH_2CH(CH_3)-$, $-CH_2CH_2CH_2-$ or $-CH=CHCH_2-$, x , y and z individually represent an integer of 0 to 5, Y and Z individually represent a hydrogen atom or a hydroxyl group, with the proviso that when R^{30} and Z represent a hydrogen atom at the same time, x , y and z are not all zero; or a compound represented by the formula (33):

(33)

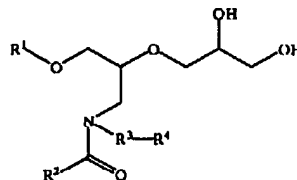


wherein R^{33} represents a linear or branched C_{1-18} alkyl group.

12. A process for preventing the lift-up phenomenon of hair cuticle and retarding the progress of hair damage comprising applying the composition of claim 1 to hair.

13. The process according to claim 12, wherein the amide compound is selected from amide derivatives each represented by the following formula (1):

(1)



wherein R^1 and R^2 are the same or different and each independently represents a C_{1-40} hydrocarbon group which may be hydroxylated, R^3 represents a linear or branched C_{1-6} alkylene group or a single bond, and R^4 represents a hydrogen atom, a linear or branched C_{1-12} alkoxy group or a 2,3-dihydroxypropoxy group, with the proviso that when R^3 represents a single bond, R^4 is a hydrogen atom.

14. The hair cosmetic composition according to claim 1, wherein the amide compound is present in an amount of 0.001 to 50 wt. %, based on the composition.

15. The hair cosmetic composition according to claim 2, wherein the amide compound is present in an amount of 0.001 to 50 wt. %, based on the composition.

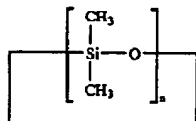
16. A hair cosmetic composition comprising an amide compound selected from the group consisting of isostearic acid amide, isopalmitic acid amide, isomyristic acid amide and phytosteryl acylglutamate, in an amount of 0.001 to 50 wt. %, based on the composition.

17. A process for preventing the lift-up phenomenon of hair cuticle and retarding the progress of hair damage comprising applying the composition of claim 16 to hair.

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wherein

n is an integer ranging from 3 to 8.

5. The emulsion of claim 1 wherein said organosiloxane is selected from the group consisting of an alkylmethicone, an alkoxydimethicone and a phenyldimethicone.

6. The emulsion of claim 1 wherein said fatty phase also contains a non-silicone oil in an amount ranging from 0.1 to 25 percent by weight based on the total weight of said emulsion.

7. The emulsion of claim 1 wherein said emulsifying agent is present in an amount ranging from 2 to 6 percent by weight based on the total weight of said emulsion.

8. The emulsion of claim 1 wherein said fatty phase contains an oily gelling agent selected from the group consisting of a metal salt of a C_8 to C_{22} fatty acid, an ester of a fatty acid and glycol, a mixture of C_{14} to C_{22} fatty alcohols, a silicone wax, a cholesterol derivative and a mixture thereof.

9. The emulsion of claim 8 wherein said oily gelling agent is present in an amount ranging from 0.1 to 10 percent by weight based on the total weight of said emulsion.

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10. The emulsion of claim 1 wherein said emulsion also contains a member selected from the group consisting of a glycerol ester, a glycerol ether and a dispersion of oxyethylenated polydimethylsiloxane in a cyclodimethylsiloxane having a HLB between 2 and 7, present in an amount ranging from 0.01 to 5 percent by weight based on the total weight of said emulsion.

11. The emulsion of claim 1 wherein said fatty phase also contains a fat-soluble adjuvant selected from the group consisting of a lipophilic UV screening agent, a lipophilic vitamin, an antioxidant and a perfume.

12. The emulsion of claim 1 wherein said aqueous phase also contains a water-soluble substance selected from the group consisting of a hydrating agent, a lubricant, a texturing agent, a hydrophilic UV screening agent, a trace element and a biological derivative.

13. The emulsion of claim 1 which is free from a preservative.

14. The emulsion of claim 1 which also contains a pigment.

15. The emulsion of claim 1 wherein said pigment is coated with a hydrophilic or hydrophobic substance.

16. The emulsion of claim 1 wherein said hydrophilic or hydrophobic substance is selected from the group consisting of polyethylene, lecithin, an amino acid salt, poly(methyl methacrylate), triisostearoyl titanate and collagen.

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